

REC'D 01 MAR 2005
WIPO



IB/05/050128

PCT Australian Government

Patent Office
Canberra

I, JANENE PEISKER, TEAM LEADER EXAMINATION SUPPORT AND SALES hereby certify that annexed is a true copy of the Provisional specification in connection with Application No. 2004903596 for a patent by ANTHONY DONALD SONGEST as filed on 30 June 2004.



WITNESS my hand this
First day of February 2005

A handwritten signature in dark ink, appearing to read 'J. K. H.' with a stylized flourish.

JANENE PEISKER
TEAM LEADER EXAMINATION
SUPPORT AND SALES

**PRIORITY
DOCUMENT**

SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

AUSTRALIA

PATENTS ACT 1990

PROVISIONAL SPECIFICATION

FOR THE INVENTION ENTITLED:-

"COLLAPSIBLE VEHICLE COVER"

The invention is described in the following statement:-

FIELD OF THE INVENTION

The present invention relates to vehicle covers and in particular to vehicle covers that are collapsible and separable for transport.

The invention has been developed primarily as a collapsible vehicle cover for an automobile and will be described hereafter with reference to this application. However, 5 it will be appreciated that the invention is not limited to this particular field of use.

BACKGROUND

Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of common 10 general knowledge in the field.

Portable covers for vehicles are known. One form of a portable vehicle cover comprises four stand members and a rigid or flexible cover connectable with the stand members. The stand members are usually either secured to the ground or to the vehicle.

Other known portable vehicle covers include a base and a plurality of hoop 15 members engageable with the base. A flexible cover is disposed above, and is secured to the hoop members to form a substantially enclosed structure.

One known portable vehicle cover of this type is disclosed in US Patent No. 4,886,083 (GAMACHE). Described is a portable cover for a vehicle including a frame and a weather resistant flexible sheet attached thereto. The frame includes a plurality of 20 hingedly connected transversely extending hoops arranged such that they support the flexible sheet over the base to form the vehicle cover. The cover is secured by driving the vehicle up onto wheel pads included as part of the base.

One problem with the portable vehicle cover disclosed in US 4,886,083 is that it is not fully collapsible for easy transport.

It is an object of the invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

5 Moreover, it is an object of the present invention in its preferred form to be provide a portable vehicle cover that is easily collapsible, simple to erect and cheap to manufacture.

SUMMARY OF THE INVENTION

According to the invention there is provided a portable vehicle cover including:

10 a base frame;

a plurality of transversely extending hoop members, each hoop member adapted to be releasably connectable with the frame such that at least two of the hoop members extend diagonally across the frame in a cruciform orientation; and

15 a flexible cover engagable with the hoop members to form a weather shield for a vehicle.

It is preferred that the hoop members are substantially resilient such that they form substantially arcuate hoops when connected to the frame. Each hoop member is preferably formed from two or more releasably connectable pieces. Alternatively, each hoop member may be formed from a single continuous piece. At least two of the hoop
20 members are preferably adapted to be hingedly connected to the base frame and more preferably two end hoop members are hingedly connected to the base frame.

Preferably, the flexible cover includes a securing means at each of its ends adapted to slidably engage with one of the hoop members and it is desired that the

securing means includes a hoop engaging sleeve. Preferably, each hoop engaging sleeve is adapted to slidably receive a hoop member.

Preferably, the flexible cover is secured in an extended configuration by selectively affixing to the base frame. It is preferred that the flexible cover is retained to
5 the base frame utilising a plurality of flexible strap members having selectively adjustable lengths.

In a preferred form, the base frame includes two transversely spaced longitudinally extending elongate frame members. It is preferred that each elongate frame member is formed from two hingedly connected elongate portions. Preferably,
10 each elongate frame member includes at least one, and desirably two telescopingly connected extensions for selectively extending the length of the base frame.

Preferably, the two elongate frame members are retained in their spaced relationship by one or more transversely extending flexible and selectively extendible tie member and desirably two tie members. It is preferred that these tie members take the
15 form of flexible straps.

Preferably, the base frame includes four tyre pads for retaining the portable vehicle cover with respect to the vehicle. It is preferred that at least two of the tyre pads include two hingedly connected length adjustment portions.

Preferably, the base frame includes a plurality of hoop engaging sockets. It is
20 preferred that four of the hoop engaging sockets are hingedly connected to the elongate frame members. It is further preferred that the hoop engaging sockets are angled outwardly away from the portable vehicle cover, desirably these sockets are inclined at an angle of approximately 10 degrees to the vertical plane. Preferably, releasable holding pins are used to retain the hoop members in the hoop engaging sockets.

Preferably, the portable vehicle cover includes a hoop clamp for releasably clamping together three of the hoop members at their centres. The hoop clamp is preferably permanently affixed to one hoop member.

5 In a preferred form the portable vehicle cover includes a centrally extending hoop member, two diagonally extending hoop members and two pivotally connected end hoop members.

It is preferred that the centrally extending hoop member includes at least two pivotally connected extension arms for spacing the hoop member away from the vehicle. Preferably each extension arm has a selectively extendable length. It is further preferred
10 that each extension arm has a suction cap at its distal end, the suction cap being engagable with the vehicle.

Preferably, each hoop member is substantially formed from fibreglass.

Preferably each elongate frame member is substantially formed from a tubular material and desirably formed from tubular aluminium.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

A preferred embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a front view of a portable vehicle cover according to the invention, shown fully assembled and with a vehicle inside;

20 Figure 2 is an end view of the portable vehicle cover of Figure 1;

Figure 3 is a plan view of a portable vehicle cover according to the invention, shown partly assembled;

Figure 4 is a side view of the portable vehicle cover of Figure 1;

Figure 5 is an enlarged perspective view of area A of Figure 4;

Figure 6 is an end view of the portable vehicle cover of Figure 3;

Figure 7 is an enlarged exploded view of area B of Figure 6;

Figure 8 is an enlarged view of area C of Figure 6;

5 Figure 9 is side view of a portable vehicle cover according to the invention,
shown partly assembled; and

Figure 10 is an enlarged view of area D of Figure 9.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the accompanying drawings, the portable vehicle cover 10 includes
10 a base frame 12 and a plurality of transversely extending hoop members 14. Each hoop
member is releasably connectable with the base frame such that two hoop members
extend diagonally across the frame in a cruciform orientation. The portable vehicle
cover further includes a flexible cover 16, which engages with the hoop members to
form a weather shield for a vehicle 18.

15 As best shown on Figure 3, the plurality of transversely extending hoop members
14 are arranged to include a central 20, two diagonal 22 and two end hoop members 24.
Each hoop member is formed from a substantially resilient material, such as fibreglass or
suitable plastics, so that arcuate hoops are formed when they are connected to the base
frame. Each hoop member is formed from two or more releasably connectable pieces to
20 facilitate transport in a kit. Alternatively, in another not shown embodiment, the hoop
members are formed from a single continuous piece. The end two hoop members 24 are
hingedly connected to the base frame to provide vehicle access when assembled.

It is proposed that the flexible cover 16 is formed a flexible material having favourable weather resistant properties. A securing means in the form of a hoop-receiving sleeve 26 is disposed at each end of the flexible cover. The hoop-receiving sleeve slidably receives the end hoop members 24 such that the flexible cover is secured in an extended configuration by selectively affixing to the base frame 12 using straps 28.

A plurality of flexible strap members 30, each having selectively adjustable lengths, are disposed about the base frame 12 and are used to retain the flexible cover to the base frame. The strap members are connectable with respective connecting points 31 on the flexible cover.

The base frame 12 includes two transversely spaced and longitudinally extending elongate frame members 32. Each frame member is formed from two elongate portions 34 hingedly connected at hinge joint 36. Two telescopically connected extensions 38 are disposed at each end of the frame members for selectively extending the length of the base frame. As best shown in Figure 5, the telescopically connected extensions are retained in their extended states using ball catch joints 40. In an alternative not shown embodiment, the extensions 38 may be retained using other suitable securing means. It is proposed that the frame members 32 are formed from aluminium tubes, so as to facilitate their telescopic construction and easy manoeuvrability.

The base frame further includes four tyre pads 42 for retaining the portable vehicle cover 10 with respect to the vehicle 18. A pair of the tyre pads 42' at one end of the base frame includes two hingedly connected length-adjusting portions 44 for accommodating vehicles with different wheelbases.

Two transversely extending flexible tie members in the form of flexible straps 46 retain the frame members 32 in a fixed spaced relationship. The flexible straps are releasably connected to the tyre pads using hook connectors 48.

The base frame 12 further includes ten hoop engaging sockets 50 for retaining
5 the ends of each hoop member 14. Four of the hoop engaging sockets are hingedly connected to the ends of one of the telescopic extensions 38 at hinge joints 52. As shown on Figure 8, the hoop engaging sockets are substantially inclined outwardly at an angle of approximately 10° to the vertical plane to create the arcuate shape of the assembled vehicle cover 10. Each hoop-engaging socket uses a releasable holding pin
10 54 to retain the ends of the hoop members (Figure 10).

Referring now to Figures 6 and 7, a hoop clamp 56 releasably clamps together the diagonally and central hoop members 22, 20 at their centres. In this preferred embodiment, the hoop clamp is permanently fixed to the central hoop member 20.

It will be appreciated that in another not shown embodiment, the central and
15 diagonal hoop members may be discontinuous and the hoop clamp may be in the form of a centrally disposed joining member.

As best shown on Figures 1 and 6, two pivotally connected support arms 58 are used to space the central hoop member 20 away from the vehicle 18. Each support arm is selectively adjustable in length and has a window engaging suction cap 60 disposed at
20 its distal end.

In use, the portable vehicle cover 10 is transported in a kit form and therefore first requires assembly before use. The kit is assembled with reference to Figures 1 to 12, using the following method:

The two frame members 32 are first laid down on a ground surface such that they are correctly spaced to suit the vehicle. Each of the telescoping extensions 38 can then be extended until the ball catch joints 40 snapingly lock them into the correct position. This in turn will present the hoop engaging sockets 50 ready to receive the ends of each
5 hoop member.

The two hingedly connected length-adjusting portions 44 of the front two tyre pads 42 should then be rotated into the desired position to suit the vehicle wheelbase. Also at this stage, the flexible straps 46 should be connected to the tyre pads and locked into position such to retain the transverse distance between the two frame members 32.

10 After assembling each hoop member to its full length, the diagonal hoop members 22 and the central hoop member 20 can be installed in position by inserting their ends into their respective sockets and securing using holding pins 54. Hoop clamp 56 is then used to retain these three hoop members together.

After unrolling the flexible cover 16 (as it was stored in the kit), one end hoop
15 member 24 is then inserted into one of the hoop-receiving sleeves 26. The end hoop member is then inserted and secured in one of the end hinged hoop engaging sockets 50. With the end socket rotated at an angle of approximately 90° to the horizontal, the other end of the end hoop member is then bent over and inserted and secured in the transversely opposite hoop engaging socket.

20 At this stage, the flexible cover 16 will be concertinaed at one end of the end hoop member 26. The process is then repeated for the other end hoop member.

As shown in Figure 9, the flexible cover 16 is now completely extended and laying one side of the base frame 12. It can now be gently pulled over the assembled central and diagonal hoop members 20, 22 to the other side of the base frame 10. After

this is completed, the flexible cover is now secured to the base frame using the plurality of flexible strap members 46.

One end hoop member is then rotated upwardly to 90° such that the vehicle 18 can be driven into the assembled vehicle cover 10. The vehicle 18 is driven up until the driver's door aligns with pre-marked indicia (not shown) on both sides of the flexible cover 16. As a result, the vehicle tyres should be resting on the four tyre pads 42 and the portable vehicle cover will be thereby sufficiently secured to the ground.

Once the driver exits the vehicle, the two pivotally connected extension arms 58 are positioned such that the suction cups 60 project onto the driver's and front passenger's windows, thereby substantially retraining the assembled vehicle cover 10 against side loads.

The two end hoop members 24 are now both rotated downwardly to an angle of approximately 45° to horizontal and retained by securing to each end of the elongate frame members, using straps 28, as best shown in Figure 4.

The portable vehicle cover 10 is thereby assembled around and secured to the vehicle.

It will be appreciated that the present invention provides a portable vehicle cover that is easy to assemble and cheap to manufacture. Also, advantageously the portable vehicle cover disclosed by the present invention is easily transportable in its kit form.

Although the invention has been described with reference to a specific example, it will be appreciated by those skilled in the art that the invention may be embodied in many other forms.

DATED this 30th Day of June 2004
BALDWIN SHELSTON WATERS
Attorneys for: Anthony Donald Songest

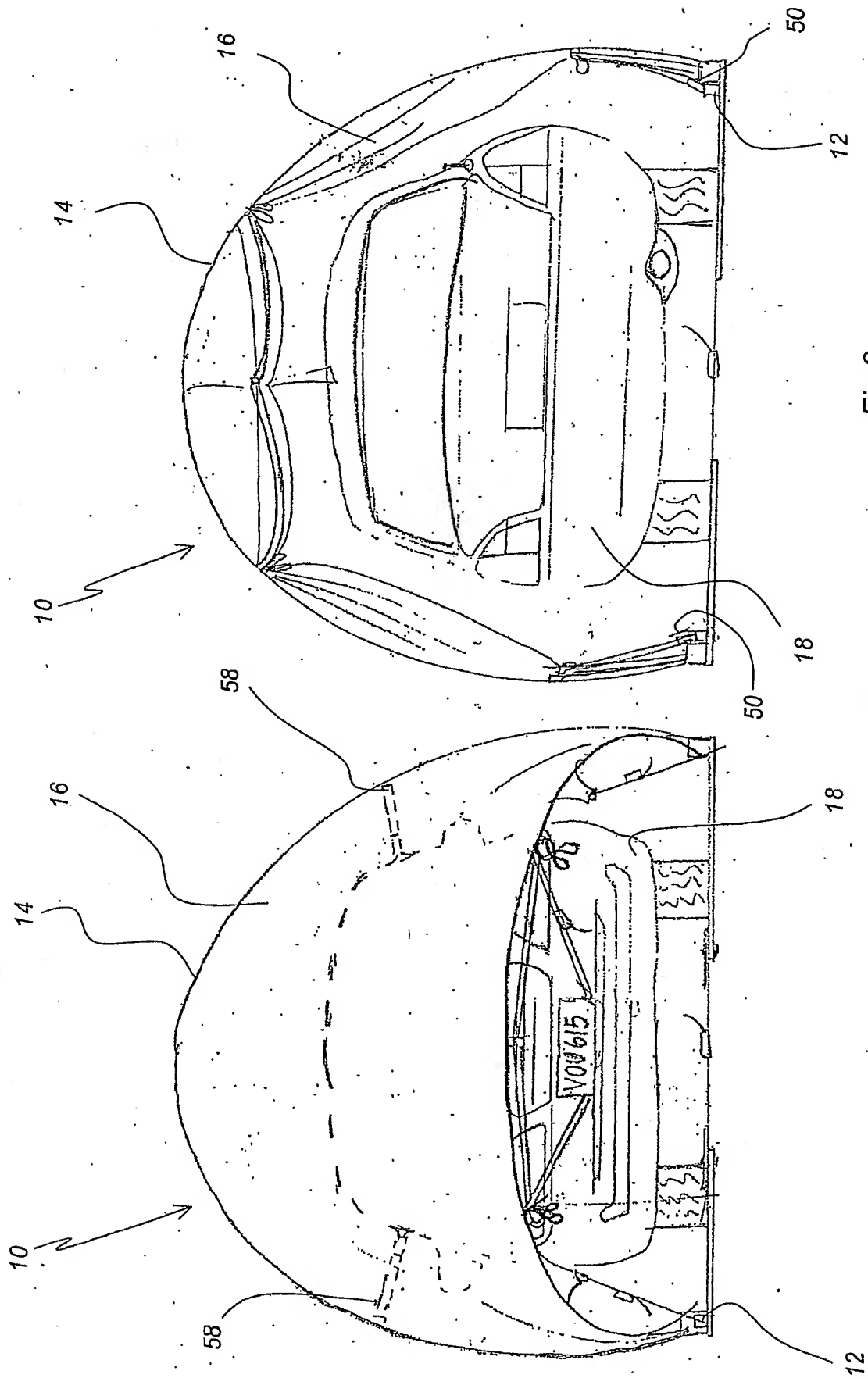


Fig 1

Fig 2

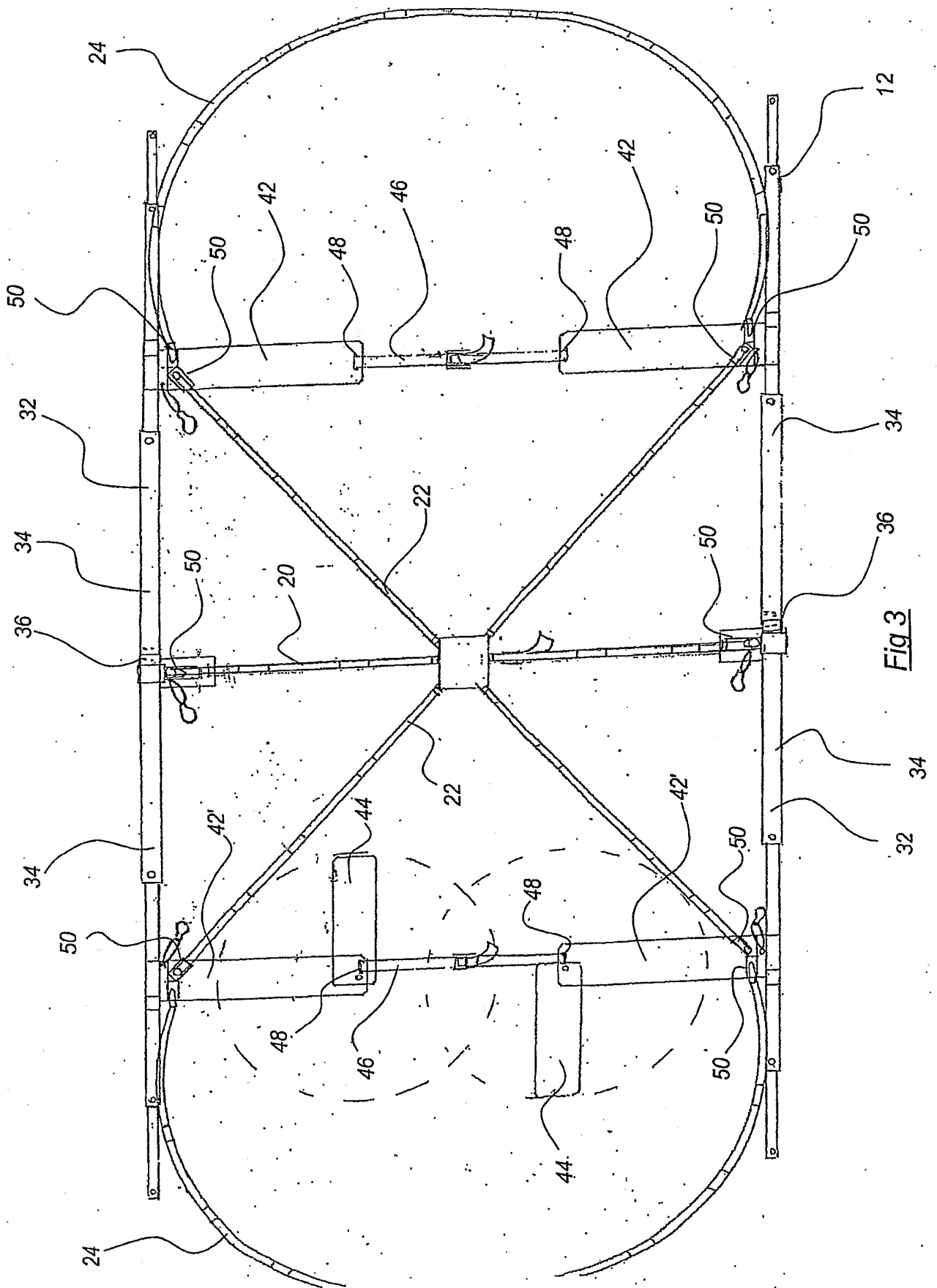


Fig 3

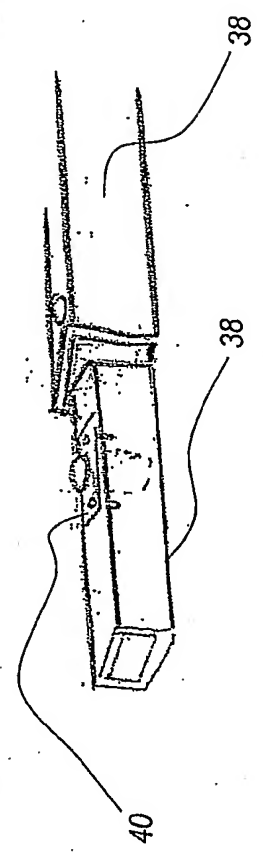
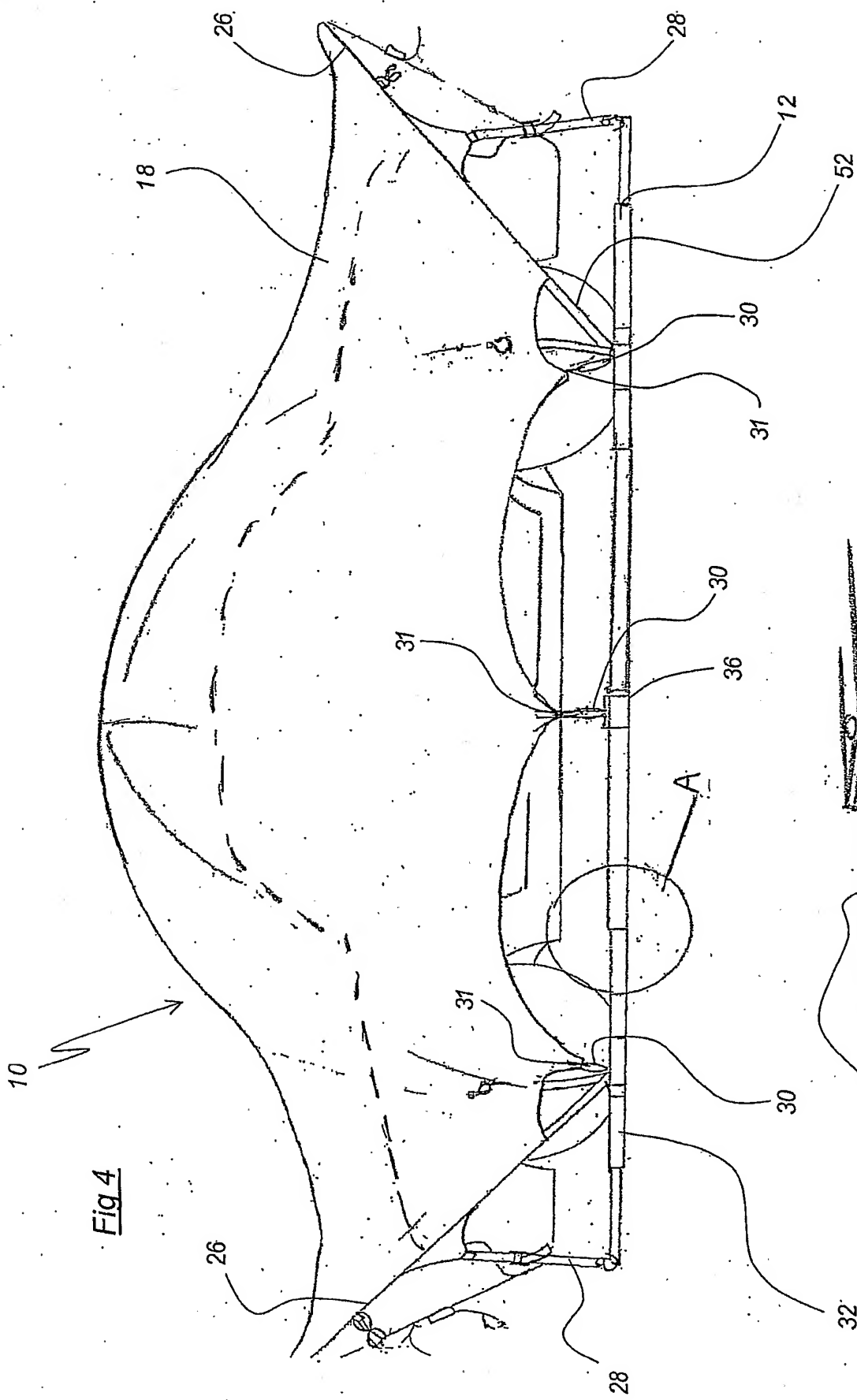


Fig 4

Fig 5

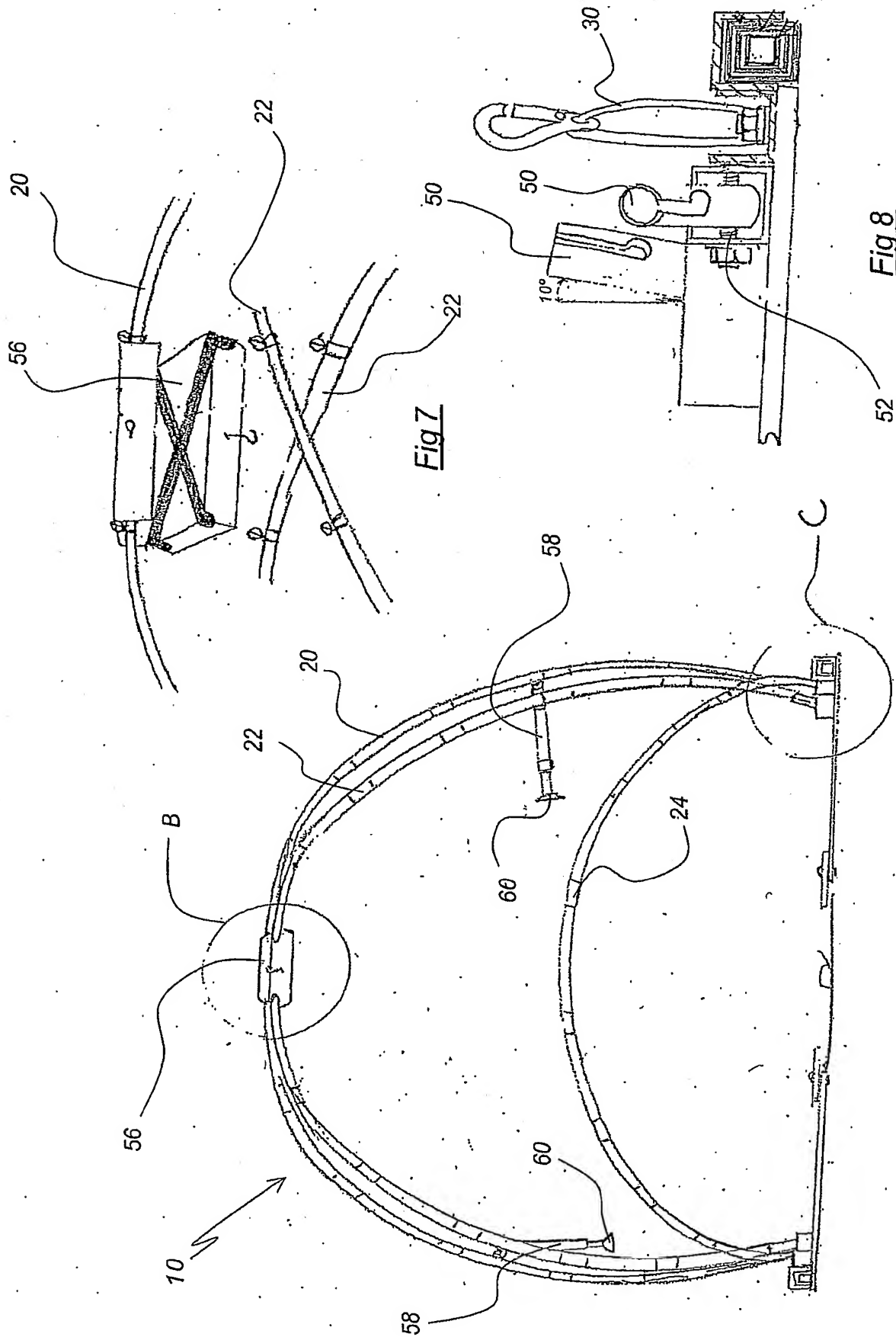


Fig 6

Fig 7

Fig 8

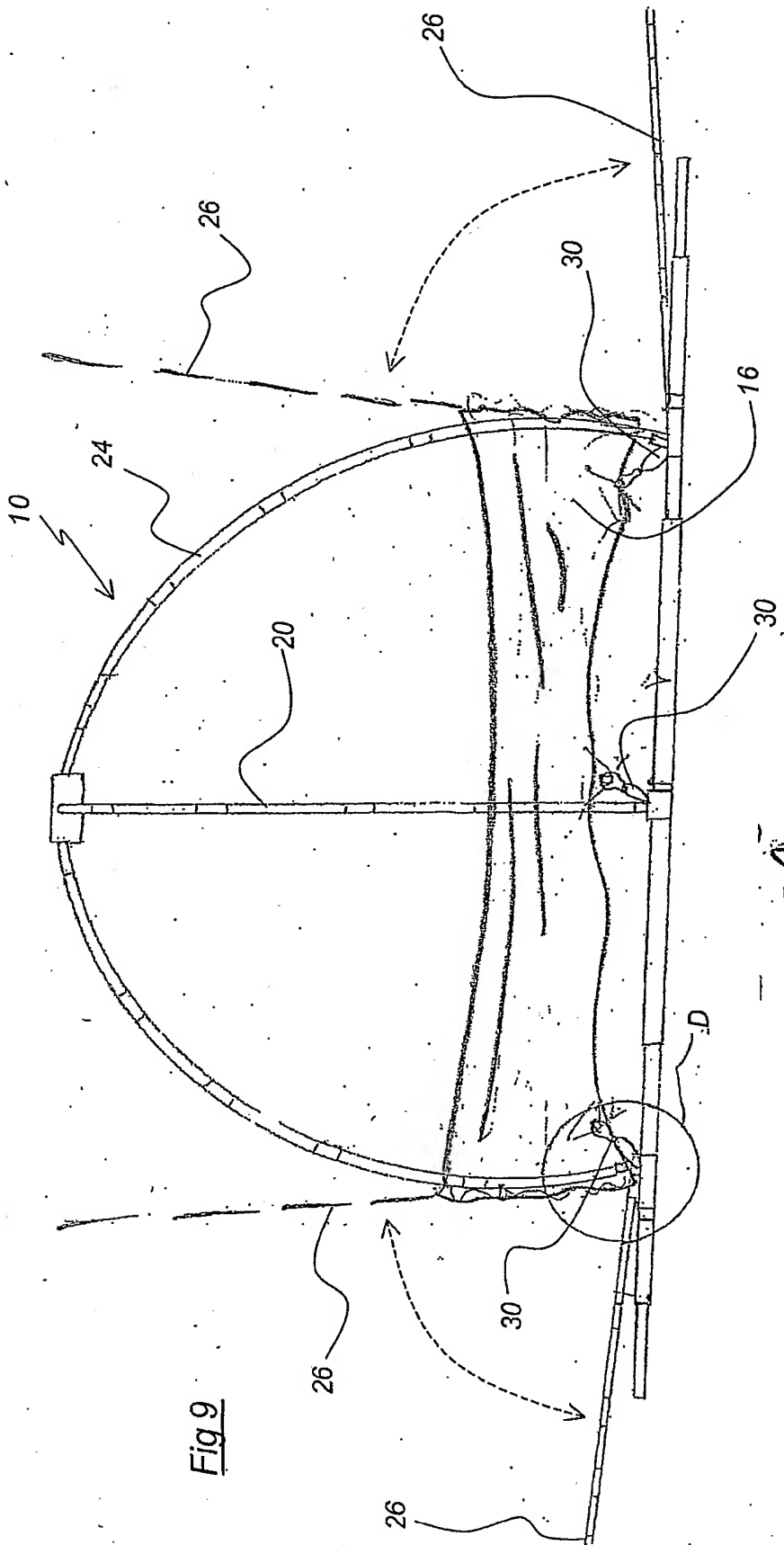


Fig 9

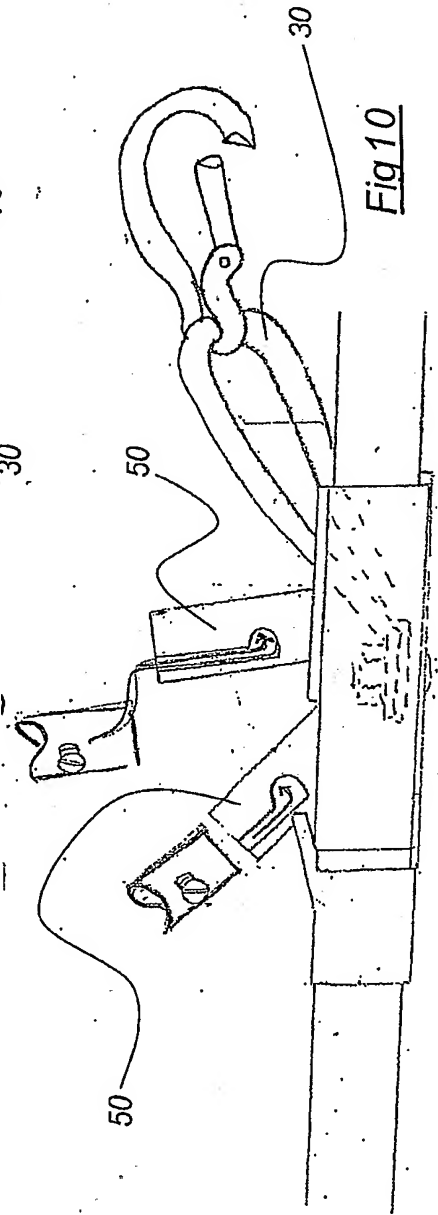


Fig 10